

**2009 Middle School Math Festival Team Round: McDougal Littell Course 2**

**Unless stated in the problem, answers will be written as an integer or an exact decimal (i.e. do not round). Any problems requiring a common fraction or mixed number for the answer will always require the fractional part to be in lowest terms.**

1. A rectangle has length and width of 9 and 6 respectively. Calculate  $\frac{\text{Area}}{\text{Perimeter}}$ .  
Write the answer as a mixed number.

2. Calculate  $A - B$  where  $A = 3.24 \div 0.15$  and  $B = 57.5 \times 0.32$ .

3. Calculate  $CD$  where  $C = 7.2 + ^{-}9.3$  and  $D = 21.3 - 17.43$ .

4. Calculate the sum of the mean and the median for the following data:  
{8, 7, 2, 9, 11, 7, 10, 3, 12, 2, 6}.

5. Determine the GCF of 154 and 231 and the LCM of 42 and 91. Calculate  $\frac{\text{GCF}}{\text{LCM}}$ .  
Write the answer as a common fraction.

6. Calculate  $B - A$  where  $A = 7\frac{3}{4} - 1\frac{5}{6}$  and  $B = 5\frac{1}{2} + 3\frac{3}{8}$ .

Write the answer as a mixed number.

7. Calculate  $C \div D$  where  $C = \frac{5}{8} \div 1\frac{9}{16}$  and  $D = \frac{7}{15} \times 1\frac{3}{4}$ .

Write the answer as a common fraction.

**Team Round (2009): McDougal Littell Course 2**

**8.** Calculate  $EF$  where  $E = 7 - (-5) - 8$  and  $F = -1.3 + 7.2 + (-6)$ .

**9.** Calculate  $\frac{G}{H}$  where  $G = (0.75)(0.68)$  and  $H = -5.7 \div (0.19)$ .

**10.** Calculate  $x + y$  where  $2x - 7 = 6$  and  $\frac{2}{3}y + 1 = -2$ .

**11.** Calculate  $K - S$  where  $K$  is the solution to  $\frac{2}{9} = \frac{6}{K}$  and  $S$  = slope of the line between  $(2, 5)$  and  $(5, -4)$ .

**12.** Calculate  $PQ$  where  $P\%$  of 5 is 16 and  $Q$  is 27% of 1500.

**13.** Calculate  $R + S$  where  
 $R$  = % increase from 32 to 36  
 $S$  = % decrease from 48 to 45

Write the answer as a common fraction.

**14.** Calculate  $\frac{\text{Supplementary angle of } 81^\circ}{\text{Complementary angle of } 81^\circ}$ .

**15.** A right triangle has a leg of length 12 and a hypotenuse of length 13. Calculate  $\frac{G}{H}$ .

$G$  = the length of the remaining leg

$H$  = the area of the triangle

Calculate  $\frac{G}{H}$ . Write the answer as a common fraction.